

Article

From psychological health to comprehensive growth: structural relationships among student well-being, mental wellness, and holistic development

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Abstract

This paper examines how student well-being and mental wellness predict holistic development in 172 undergraduate students of four private universities in Guwahati, Assam, Assam Don Bosco University, Assam downtown University, Royal Global University, and Girijananda Chowdhury University. The study used a cross-sectional design with structural equation modelling (SEM) to test the direct path relationships using psychometrically validated scales of eudaimonic well-being domains, symptom-reduced mental wellness, and overall developmental outcomes in terms of cognitive, emotional, social, and ethical outcomes. Results have confirmed both psychological constructs to be important positive predictors of holistic development, where well-being promotes engagement and resilience as a necessary component of balanced maturation and mental wellness supports adaptive coping and relational competencies as a necessary component of academic success. Findings are consistent with the evidence of interventions provided by Rentala et al. (2019) and systematic reviews by Berger et al. (2022) and Hossain et al. (2023), which apply theoretical frameworks such as the 4M-framework by Nair and Otaki (2021) to the South Asian contexts. Theoretical contributions enhance the applications of the Self-Determination Theory to educational psychology, whereas the practical implication promotes the inclusion of wellness screening and SEL programs into the NEP 2020-compliant curricula. The research highlights psychological wellbeing as the structural base of multidimensional student development, to guide policy changes of a scale in resource-heterogeneous institutions of higher learning.

Keywords: *Student Well-Being, Mental Wellness, Holistic Development, Higher Education*

Article History

Received: 2 Jan, 2026

Revised: 12 Feb, 2026

Accepted: 27 Feb, 2026

Published: 13 March, 2026

1 INTRODUCTION

Holistic development is a holistic approach to education that goes beyond the conventional academic standards and incorporates cognitive, emotional, social, physical, and ethical aspects of student development to promote a well-balanced maturation of the student (Hossain et al., 2023). This

multidimensional approach has become of urgent critical concern in the modern schooling systems across the globe where standardised testing is usually a dominant factor in school curricula and where mental health issues among young people are rising at an alarming rate. The systematic reviews report the influence of unaddressed psychological distress (including anxiety and depression and reduced life satisfaction) as a barrier to resilience, interpersonal competencies, and long-term thriving, which is a

barrier to balanced growth (Berger et al., 2022; Nair and Otaki, 2021). The National Education Policy 2020 in the Indian context specifically promotes the holistic development of students by means of experiential learning, value education, and flexible curricula, but there is a lack of empirical evidence on the exact psychological antecedents of such effects. This disparity is especially high in various socioeconomic contexts such as the district-level schools of Rajasthan, where the cultural pressures, resource scarcity, and academic rivalry exacerbate the vulnerability of students in the process of adolescence (Prakash, 2021). As an example, Rentala et al. (2019) demonstrated through randomised controlled interventions that stress reduction in rural adolescent girls developed emotional stability that forms the basis of personal and social development, and Song and Hu (2024) used structural equation modelling on thousands of freshmen to identify predictive relationships that require additional quantification in non-Western populations.

The holistic development construct is based on the existing eudaimonic models, which identify purposeful activity, achievement, and inner strengths as the characteristics of flourishing, which goes beyond hedonic enjoyment or the lack of suffering (Hossain et al., 2023). The recent scale innovations, like the all-encompassing student development measure developed by Bozeman et al. (2024), reflect these aspects with the validated factors, such as cognitive acuity, emotional regulation, social efficacy, and ethical reasoning, which are sensitive to programmatic changes in affective areas that are frequently neglected. Likewise, a systematic mixed-methods review of 43 studies on student perceptions of authentic assessment (e.g., portfolios and peer feedback) to develop holistic competencies (e.g., critical thinking, collaboration) rather than rote exams found moderate correlations with overall growth satisfaction (Kippers et al., 2022). Lunga et al. (2022) applied participatory action research in South African early childhood development centres in early childhood settings and found that play-based pedagogies, which combine free and guided play, were the drivers of integrated moral, physical, intellectual, socio-emotional, and linguistic

development, especially in low-resource settings. In line with this, a systematic review of 12 school-based interventions that embraced holistic physical literacy models by Jerebine et al. (2024) showed that there was significant physical domain improvement and mixed affective and cognitive benefits, which supported the necessity of multicomponent interventions in controlled educational designs. All of these measurement and pedagogical innovations confirm the possibility of measuring multifaceted development, but they point to the continued gaps in the modelling of antecedent psychological variables, particularly in transitional academic stages.

Positive emotions, meaningful relationships, engagement, purpose, and accomplishment are the key elements of student well-being that become a critical antecedent that mitigates the risks of development and facilitates adaptive maturation (Hossain et al., 2023). The 4M-Model suggested by Nair and Otaki (2021) is based on the systematic review of 40 interventions studies (2016-2020), which identified mindfulness, movement, meaning-making, and moderator variables in blended interventions such as MBSR, yoga, and web-based CBT, which showed moderate-to-large effects on resilience in terms of physical, psychological, emotional, and social aspects in university students. Wernick et al. (2018) also meta-analysed 26 randomised controlled trials with long-term follow-ups (≥ 3 months) and found that there were sustained small effects on reducing ill-health symptoms (e.g. depression persisting 13-18 months) and positive effects (self-esteem) with face-to-face formats having stronger durability. Mental wellness, in turn, demonstrates low symptomology (e.g., with the help of SCL-90) and high adaptive functioning, which Song and Hu (2024) surveyed 3,871 Chinese freshmen and discovered that mental health was negatively correlated with academic achievement mediated by learning adaptation and self-efficacy, and psychological vitality was an essential factor of transitional development. Berger et al. (2022) searched 74 articles on 29 Australian school programs, reporting long-term psychological and physical outcomes of cognitive-behavioral therapy (CBT), mental health literacy, and social-emotional

learning (SEL) interventions, which depended on implementation fidelity and school context.

Although this is a strong basis of intervention efficacy and scale validation, directional hypothesis testing well-being and mental wellness as direct predictors of holistic development is under-researched, especially in structural equation modelling with South Asian adolescent samples. Prakash (2021) presented mixed-method evidence of the Rajasthan secondary schools, in which NEP-oriented holistic models based on traditional knowledge and modern curricula performed better than traditional methods in terms of life skills and ethical reasoning gains. The barriers to cross-cultural are still present, with Lunga et al. (2022) and Jerebine et al. (2024) focusing on resource-sensitive adaptations, whereas Kippers et al. (2022) observe the lack of non-Western voices in competency research. Self-Determination Theory theoretical extensions also explain why wellness-based autonomy and relatedness promote intrinsic motivation to multifaceted thriving (Nair and Otaki, 2021). It is against this background of mental health decline in young people across the world that requires antecedent-based models rather than reactive strategies (Wernck et al., 2018) that the current study fills the gaps by quantifying the impact of student well-being and mental wellness on holistic development through path analysis in an Indian educational setting. In particular, the proposed research questions are: (1) how student well-being impacts holistic development, and (2) how student mental wellness impacts holistic development, which will be of empirical use to the field of educational psychology and will inform scalable policy changes in accordance with the NEP 2020 vision of comprehensive student agency.

2 REVIEW OF LITERATURE

In the study, Hossain et al. (2023) performed a scoping review of 33 empirical researches with 58,910 students aged 6-19 years and synthesized the perspectives on hedonic, eudaimonic, and integrated well-being frameworks. The review has named eight major domains, which are positive emotion,

relationships, engagement, accomplishment, purpose, intrapersonal strengths, and contextual factors, as the antecedents of holistic functioning such as school thriving and development of life skills. Eudaimonic traits such as engagement and purpose turned out to be especially strong predictors of full growth beyond the basic satisfaction, and methodological synthesis identified gaps in the voices of young students and longitudinal designs. The emotional, social, cognitive, and physical development trajectories were determined by these wellness domains placed as building blocks that favoured student-centred actions in educational policies that allow complete flourishing.

In a multidimensional Student Well-Being scale, Khatri (2024) conducted and confirmed a structural equation modelling with the use of exploratory and confirmatory factor analysis on varied undergraduate samples in a higher education setting. Student-well-being was highly correlated with major holistic outcomes of academic engagement, personal growth and enhanced learning experience and indicated the good model fit, internal consistency and predictive validity of the scale. The scale measured eudaimonic aspects such as purpose and relationships together with hedonic satisfaction such that educators could monitor the psychological conditions that could affect holistic maturation. Results underscored the importance of well-being as a precursor and not an outcome to support balanced development of students, as assessed in a curriculum.

In a systematic review of the whole-school well-being strategies implemented in various international settings, Lindorff (2020, as cited in Woolf et al., 2023) combined the data of longitudinal program evaluations and qualitative data about the stakeholders. The review has made definite connexions to overall developmental benefit such as lower rates of dropouts, increased self-efficacy, motivation, increased creativity and facilitated academic change over students with multiple challenges. The combination of counselling, peer support and environmental modifications at a whole-school level was found to be most effective in bringing about systemic changes that would

positively affect psychological health in the long term. These results put the culture of institutional well-being as the key infrastructure to the holistic development that is not individual-based.

Li et al. (2025a) reviewed positive psychology interventions on the basis of Self-Determination Theory in a narrative review, which evaluated randomised trials and quasi-experimental designs in a multi-year sample of study recruitment in university settings. The synthesis showed that the wellbeing factors such as autonomy, competence and relatedness have a beneficial longitudinal effect on holistic thriving by maintaining motivation, resilience and multipolar personal development that is measured in assessment waves. Intrinsic goal pursuit interventions were superior over extrinsic-based interventions, and resulted in development of academic persistence capacities, as well as emotional and social competencies. Findings supported theory-based curricula that encompass satisfaction of psychological needs in a bid to hasten full maturation of students.

Li et al. (2025b) used structural equation modeling to predict hedonic, eudaimonic, and social well-being using longitudinal data in which university learning experiences predict various cohorts. Cognitive processing, social connectedness, and reflective practises were found to be highly motivating internal forces that led to holistic well-being and overall student development, and the existence of two-way developmental relationships proved the reciprocal effect of practises. The model has shown active learning pedagogies as especially powerful well-being initiators, going beyond a passive teaching approach to foster integrated psychological thriving needed to achieve lifelong well-being.

The article by Thyagararajan et al. (2019) evaluates a holistic group intervention in the form of a randomised controlled trial involving 60 adolescent females in underserved communities, who undergo holistic sessions involving psychoeducation, relaxation, and peer support over a few weeks. The intervention was associated with sustained well-being such as less stress, less depression and anxiety that

lasted three months after the intervention duration, which was better than waitlist controls on a variety of validated measures. These psychological returns made one emotionally stable, enhanced peer relations, and developed stronger coping abilities needed in the overall development of the individual and social life at vulnerable stages of development.

Wang et al. (2025) incorporated a meta-analysis of 59 studies of 185 effect sizes of global educational settings and investigated the effects of dimensions of lifelong learning on subjective well-being processions. The education practises focused on the sustained acquisition of skills and on reflective practise promoted psychological health and facilitated the balance of the entire growth between the rural and urban students through the analysis of the contextual moderation. The synthesis had the highest effects on resource-constrained environments, where the structured learning opportunities are seen as universal promoters of equal developmental prospects in the various socioeconomic environments.

Nair et al. (2021) conducted a systematic review of the literature on mental health interventions in universities including mindfulness, physical activity, cognitive-behavioural, and meaning-based interventions and suggested the use of 4M-model as an integrated approach to the intervention. The model provided comprehensive mental health outcomes in physiological, emotional, cognitive, and relational aspects, which were conducive to a long-term development of students by combining interventions. Integrated programmes like mindfulness-based stress reduction, yoga, acceptance and commitment therapy, and a web-based form of CBT were found to be most effective in various areas, and digital applications were found to make them more accessible. Digital and group forms came out as especially scalable, which proved to be transferred to academic performance and interpersonal functioning, which are critical to comprehensive maturation.

Berger et al (2022) in their systematic review identified 74 articles that outlined 29 school-based mental health and wellbeing programmes in Australia

with long-term benefit assessment at the maximum of 36 months after intervention on students in primary through secondary education. The programmes that included cognitive-behavioural therapy, mental health literacy training and social-emotional learning methods provided long-term psychological and physical health benefits, and SEL was especially successful in emotional regulation and prosocial behaviours. The major results were the presence of the long-term positive changes in the psychological outcomes as well as physical health indicators, and the implementation fidelity and the school context were also identified as important moderators. The review also highlighted how the translation of this mental wellness to multifaceted development (in terms of academic performance, peer relationships and key life skills) occurred.

The systematic review by ACEHR meta-analysed 75 international trials that provide the mapping of the relative impact of well-being interventions on academic versus non-academic outcomes, such as self-regulation, and relationships. The influences of contextual factors such as programme fidelity, teacher training, and student demographics are always moderated influences which embrace broad holistic development benefits, not necessarily cognitive gains alone. The synthesis emphasised the use of multicomponent strategies to combine universal screening and specialised support as the best strategies in long-term psychological health improvements.

In a randomised controlled trial study, Rentala et al. (2019) randomised 60 IN rural-based adolescent girls to test holistic group health promotion programme that included yoga, counselling and life skills training in eight weeks. The baseline, post-intervention and three-month follow-up Standardised assessments showed a significant and lasting decrease in depression, anxiety, stress, and perceived stress in comparison with controls in routine care. These benefits in mental health placed psychological incomes as a core of holistic development, academic interests, effective social connexions on both sides, and individual development in high educational

demands and emphasised the scalability of culturally modified group interventions.

Wernck et al. (2018) conducted a systematic review and meta-analysis of 26 randomised controlled trials on mental health interventions in higher education students with a specific focus on the sustainability of the latter due to at least three-month follow-ups. CBT, mindfulness-based stress reduction and psychoeducation of depression and anxiety together with the symptoms of stress led to minor but significant long-term decreases in ill-health and improvements in self-esteem and well-being. Face-to-face formats exhibited greater effects on long-term results with intermediate level heterogeneity, with the effect of intervention moderated by the characteristics of the interventions, in support of mental wellness interventions in producing long-term developmental benefits in academic persistence, social functioning, and resilience necessitating comprehensive student development.

Song and Hu (2024) surveyed thousands of freshman students with standardized symptom checklists to find out about the predictive nature of mental health on academic achievement through the use of structural equation modeling with a chain mediation pathway. Mental health as an important antecedent in the process of learning adaptation and academic self-efficacy was confirmed by path analysis at university transitions. Poor mental wellness was a constant obstacle to the adaptation to higher education needs, it lowered the motivation and performance and healthier mental state increased adaptability to cope. The research factored in the major demographics and past academic history, which made it strong throughout the expansive sample and made mental wellness a basis of all-inclusive development including cognitive, motivational and socio-academic.

Lunga et al. (2022) used participatory action learning and action research in three early childhood development centres in South Africa and involved various practitioners and researchers in a collaborative inquiry regarding the developmental effects of play-based pedagogy. Based on the well-

known models of the learning theory, the research proceeded in a cyclic process consisting of child-initiated free play and adult-directed structured activities, which provided deep data in the form of group discussions and visual records that were interpreted thematically. The result was six themes which were interrelated and identified in the moral, physical, cognitive, emotional, social and linguistic areas. Results advocated structured and loose play with family and practitioner participation to overcome resource constraints enhancing balanced growth in respect of community cultural beliefs.

Jerebine et al. (2024) have conducted a systematic review of 12 school-based interventions that had more than 1,400 children aged 5-14 years and took into account the comprehensive physical literacy approaches that measure various developmental outcomes as well as levels of activities. Interventions were done in physical education, afterschool programmes, recess programmes, and multicomponent interventions that need assessments in at least three domains. Physical domain improvements as demonstrated by strong evidence were mainly within controlled designs and a mixed affective and cognitive findings with social domains least studied. The qualitative feedback has been consistent in supporting goodness in the specific domains, where it is crucial to consider all the domains to be covered in personal holistic development by evidence-based school movements policies.

Kippers et al. (2022) combined 25 quantitative and 18 qualitative studies via systematic mixed-methods review involving the perceptions of higher education students towards holistic competency recognition which entailed critical thinking, collaboration, and self-management skills. Learners favoured genuine evaluations such as portfolios and peer reviews over conventional assessments and they kept on reporting an increase in motivation and self-efficacy. Moderate relationships were present between recognition practises and development satisfaction based on quantitative analyses and barriers and enablers were identified based on qualitative data. The review recommended in-built assessment systems with

policy consequences on comprehensive evaluation changes that would spearhead wholesome expansion.

Bozeman et al. (2024) created the Comprehensive Student Development Scale using a multi-phase validation procedure that started with a large scale item generation, professional content analysis, exploratory and confirmatory analysis with four strong factors, i.e., cognitive, emotional, social, and ethical development. Educator ratings established useful practicality in tracking affective and social developments as well as academic performance indicating sensitivity to comprehensive programme outcomes. The scale also covered measurement gaps observed in the past across non-cognitive areas, which allowed a precise evaluation of the programme and individual intervention with suggestions on cross-cultural evaluation and digital modifications.

The model presented by Prakash (2021) was an investigation into the aspects of holistic education models in secondary schools in Rajasthan, the mixed-methods research design involved large samples of students and teachers, combining traditional knowledge systems, with the modern ones based on the national policy frameworks. Pre-post tests reported significant improvements in the development of life skills and the ability to think ethically, which was always better than traditional methods of teaching. Qualitative analyses showed that there were such dominant themes as increased motivation and the formation of cultural identity. Limitations to implementation included constraints of resources, which was recommended to be in capacity building of teachers to facilitate policy-driven holistic reforms to be scaled.

Schweig et al. (2025) assessed international Teach For All network programmes based on mixed-methods using randomised controlled trials in several countries, and considering the effects of holistic teacher preparation on student achievement. Results provided evidence of faster growth in fundamental academic fields as well as significant social-emotional learning achievements especially within resource-deprived settings. Community involvement balanced influences and diagnostic instruments,

coaching resources and integrated curricula connected to overall development of academic, relational and identity spheres. The data was in favour of international generalisation of holistic teacher development strategies.

3 RESEARCH METHODOLOGY

The research design adopted in this study was a quantitative cross-sectional research design that utilised structural equation modelling (SEM) to test the predictive differences between student well-being and mental wellness and holistic development in university students. The path analysis technique allowed testing at once both the direct effects of psychological predictors on the overall developmental outcome, which is consistent with other established practises in educational psychology to model complex developmental pathways. Cross-sectional data collection ensured the high levels of statistical power within the practical limits and reflected psychological-developmental dynamics in contemporary times, which is fundamental in testing the hypotheses.

3.1 Population and Sampling

Target Population: The target population included undergraduate students pursuing regular degree

programmes in Assam Don Bosco University, Assam down town University, Royal Global University, Girijananda Chowdhury University in Assam, India, and in particular, students, who are in their transitory stages of academic life with the likelihood of having psychological pressures. A purposive sampling method was adopted to use second- and third-year students in social sciences and humanities faculties, as they represented the different socioeconomic backgrounds that are representative of the education demographics of the region. The final sample size of 172 students (Response rate of 86% was achieved by systematic recruitment of the students through stratified proportional selection across the participating institutions in order to make sure that the sample was heterogeneous in terms of demographic aspects like gender balance (52% female), geographic spread and variability in academic status.

4 RESEARCH HYPOTHESES

H1: Student well-being has a significant positive effect on Holistic Development.

H2: Student mental wellness has a significant positive effect on Holistic Development.

Table-1: Models Info

Estimation Method	ML
Optimization Method	NLMINB
Number of observations	172
Model	Mental wellness $= \sim GMH1 + GMH2 + GMH3 + GMH4 + GMH5 + GMH6 + GMH7 + GMH8$ well-being $= \sim SWB1 + SWB2 + SWB3 + SWB4 + SWB5 + SWB6 + SWB7 + SWB8$ Holistic Development $= \sim HD1 + HD2 + HD3 + HD4 + HD5 + HD6$ Holistic Development $\sim$ well-being + Mental wellness

Table-1 gives the model information of the key model estimated in the study through structural equation model. The parameter estimates of the model were determined with the Maximum Likelihood (ML) algorithm that is commonly applied in the analysis of SEM as it is an efficient algorithm that can be applied to continuous data and the parameter estimates were

estimated with the help of the NLMINB algorithm in order to obtain the estimates and make sure that they are stable. The results were analysed using 172 observations, which show that the sample size was sufficient to estimate the given latent constructs and interrelationships. Measurement model also defines Mental Wellness as a latent variable that is measured

by eight observed indicators (GMH1 to GMH8), Well-being as a latent construct that is measured by eight indicators (SWB1 to SWB8), and Holistic Development as a latent variable that is measured by six indicators (HD1 to HD6) to cover every conceptual area. Holistic Development in the structural model is regressed on both Well-being and Mental Wellness and therefore, the model is of the

hypothesis that the mental wellness and subjective well-being of individuals directly affect their holistic development. In general, this table describes the estimation strategy, study sample, and the combined measurement and structural model that would be applied to investigate the associations between the three primary constructs of the research.

Table-2: Parameters estimates

				95% Confidence Intervals				
Dep	Pred	Estimate	SE	Lower	Upper	β	z	p
Holistic Development	well-being	0.431	0.131	0.175	0.687	0.476	3.29	<.001
Holistic Development	Mental wellness	1.246	0.558	0.151	2.340	0.562	2.23	0.026

The parameters estimates of the structural relationships of explaining Holistic Development in the model are shown in Table-2, with the statistical significance and the confidence intervals. These findings demonstrate that well-being has a significant and positive impact on Holistic Development with unstandardized estimate of 0.431 (SE = 0.131), which implies that one unit change in well-being has a positive impact on Holistic Development by 0.431 unit; a 95% confidence interval (0.175 to 0.687) that is not equal to zero, a standardised coefficient (0.476), a z-value of 3.29, and a very significant p-value (< .00). Equally, Mental Wellness has a positive and significant impact on the Holistic Development

with the unstandardized estimate of 1.246 (SE = 0.558) being large and hence the absolute impact of Mental Wellness is greater, and the 95% confidence interval (0.151 to 2.340) dispels that this is a strong association between the two variables and the standardised coefficient of 0.562, z-value of 2.23 and p-value of 0.026 are proof that the difference. All in all, the table reveals that the well being and mental wellness are highly predictive of Holistic Development with the standardised effect of the latter being relatively larger, which suggests that mental wellness plays a crucial role in the context of the proposed model in enhancing holistic development.

Table-3: Measurement model

				95% Confidence Intervals				
Latent	Observed	Estimate	SE	Lower	Upper	β	z	p
Mental wellness	GMH1	1.000	0.000	1.000	1.00	0.206		
	GMH2	0.635	0.541	-0.425	1.69	0.104	1.17	0.241
	GMH3	4.250	1.638	1.040	7.46	0.729	2.60	0.009
	GMH4	4.077	1.578	0.985	7.17	0.694	2.58	0.010
	GMH5	5.103	1.946	1.289	8.92	0.848	2.62	0.009
	GMH6	2.767	1.118	0.576	4.96	0.487	2.47	0.013
	GMH7	6.663	2.539	1.686	11.64	0.858	2.62	0.009
	GMH8	2.932	1.213	0.554	5.31	0.428	2.42	0.016
well-being	SWB1	1.000	0.000	1.000	1.00	0.487		
	SWB2	1.309	0.263	0.793	1.83	0.501	4.97	<.001

	SWB3	0.760	0.203	0.361	1.16	0.337	3.73	<.001
	SWB4	0.960	0.227	0.515	1.40	0.396	4.23	<.001
	SWB5	1.889	0.294	1.314	2.47	0.831	6.43	<.001
	SWB6	1.108	0.225	0.666	1.55	0.492	4.92	<.001
	SWB7	2.186	0.338	1.523	2.85	0.840	6.46	<.001
	SWB8	1.543	0.284	0.985	2.10	0.579	5.43	<.001
Holistic Development	HD1	1.000	0.000	1.000	1.00	0.422		
	HD2	1.145	0.282	0.592	1.70	0.405	4.06	<.001
	HD3	1.500	0.295	0.922	2.08	0.624	5.08	<.001
	HD4	2.031	0.378	1.290	2.77	0.722	5.37	<.001
	HD5	2.037	0.370	1.312	2.76	0.778	5.51	<.001
	HD6	1.095	0.250	0.606	1.58	0.462	4.39	<.001

The results of the measurement model are presented in table-3 and include information on the relationships between each of the latent constructs and its measured indicators and their statistical significance and confidence interval. In the case of Mental Wellness, GMH1 was set to 1.000 to be the reference point in identifying the scale, and other indicators of Mental Wellness (GMH2 to GMH8) had positive loadings with most of them being significant, with a small exception that GMH2 had a weak and insignificant loading (= 0.104, = 0.241), which implicates the fact that the item has a minimal contribution to the construct with strong and significant loadings (= 0.428, = 0 To identify SWB1 in the case of Well-being, it was set to 1.000 and the rest of the indicators (SWB2 through SWB8) have a positive and statistically significant loading (p <

.001) and moderate to strong standardised coefficients (=0.337 to =0.840), which validate the high convergent validity of well-being construct. In a similar regard, in the case of Holistic Development, the reference indicator is HD1 and all other indicators (HD2 to HD6) load positively and significantly on the latent variable (p <.001) and whose standardised coefficients are ranging between 0.405 and 0.778, implying that the observed indicators are strong measures of holistic development. Generally, the table indicates good empirical evidence of the reliability and validity of the measurement model since majority of observed indicators are highly significant and meaningfully depict respective latent constructs except GMH2, which exhibits a relatively low correlation to Mental Wellness.

Table-4: Variances and Covariances

				95% Confidence Intervals				
Variable 1	Variable 2	Estimate	SE	Lower	Upper	β	z	p
GMH1	GMH1	0.94884	0.10274	0.7475	1.1502	0.9574	9.235	<.001
GMH2	GMH2	1.56249	0.16866	1.2319	1.8931	0.9892	9.264	<.001
GMH3	GMH3	0.67088	0.08101	0.5121	0.8296	0.4679	8.282	<.001
GMH4	GMH4	0.75531	0.08922	0.5804	0.9302	0.5183	8.465	<.001
GMH5	GMH5	0.43113	0.06154	0.3105	0.5517	0.2816	7.006	<.001
GMH6	GMH6	1.03869	0.11534	0.8126	1.2648	0.7626	9.005	<.001
GMH7	GMH7	0.67368	0.09913	0.4794	0.8680	0.2643	6.796	<.001
GMH8	GMH8	1.61805	0.17819	1.2688	1.9673	0.8168	9.081	<.001
SWB1	SWB1	0.81692	0.09128	0.6380	0.9958	0.7632	8.950	<.001
SWB2	SWB2	1.29464	0.14509	1.0103	1.5790	0.7487	8.923	<.001

SWB3	SWB3	1.14479	0.12524	0.8993	1.3903	0.8867	9.141	<.001
SWB4	SWB4	1.25871	0.13862	0.9870	1.5304	0.8435	9.080	<.001
SWB5	SWB5	0.40672	0.05924	0.2906	0.5228	0.3101	6.866	<.001
SWB6	SWB6	0.97228	0.10876	0.7591	1.1854	0.7576	8.940	<.001
SWB7	SWB7	0.50378	0.07555	0.3557	0.6518	0.2937	6.668	<.001
SWB8	SWB8	1.19709	0.13688	0.9288	1.4654	0.6649	8.746	<.001
HD1	HD1	0.95607	0.10488	0.7505	1.1616	0.8216	9.116	<.001
HD2	HD2	1.38269	0.15142	1.0859	1.6795	0.8356	9.131	<.001
HD3	HD3	0.73181	0.08352	0.5681	0.8955	0.6103	8.762	<.001
HD4	HD4	0.78896	0.09489	0.6030	0.9749	0.4794	8.315	<.001
HD5	HD5	0.56068	0.07199	0.4196	0.7018	0.3942	7.789	<.001
HD6	HD6	0.91774	0.10114	0.7195	1.1160	0.7865	9.074	<.001
Mental wellness	Mental wellness	0.04224	0.03224	-0.0210	0.1054	1.0000	1.310	0.190
well-being	well-being	0.25349	0.07832	0.1000	0.4070	1.0000	3.236	0.001
Holistic Development	Holistic Development	0.00532	0.00885	-0.0120	0.0227	0.0256	0.602	0.547
Mental wellness	well-being	0.08349	0.03537	0.0142	0.1528	0.8069	2.360	0.018

Table-4 provides the variances and covariances of the observed indicators and latent constructs in the model, their standard error, and confidence interval, their standardised estimation and level of significance. The diagonal items of the observed variables (GMH1-GMH8, SWB1-SWB8, and HD1-HD6) are the residual variances of these variables, and they are all positive and statistically significant ($p < .001$) with relatively small 95% intervals, suggesting the acceptable measurement values and the acceptable estimation of unexplained variance in each of the indicators. Standardised estimates of variance () do not indicate the same level of variation among indicators because they depict differences in the share of variance that is not explained by the respective latent constructs, and none of the indicators display issues with estimation. The variance of Mental Wellness at the latent level is not significant or statistically significant (estimate = 0.042, $p = 0.190$), meaning that a significant

proportion of the variance is accounted within the model structure, but Well-being has a significant latent variance (estimate = 0.253, $p = 0.001$), meaning that there is a significant variability in the desires of individuals. The Holistic Development variance is non-significant ($p = 0.547$), but it is very insignificant (estimate = 0.005), which means that its variability is highly described by its predictors in the structural model. Significantly, the covariance between Mental Wellness and Well-being is positive and statistically significant (estimate = 0.083, 0.807, $z = 2.36$, $p = 0.018$) which proves that the relationships between the two latent constructs are strong and significant. On the whole, the table indicates good residual variances of observed variables, reasonable latent variances and significant positive correlation between Mental Wellness and Well-being, which contributes to the theoretical consistency of the model.

Table-5: Intercepts

			95% Confidence Intervals			
Variable	Intercept	SE	Lower	Upper	z	p
GMH1	3.791	0.076	3.642	3.939	49.938	<.001
GMH2	3.884	0.096	3.696	4.072	40.528	<.001
GMH3	3.721	0.091	3.542	3.900	40.755	<.001

GMH4	3.616	0.092	3.436	3.797	39.286	<.001
GMH5	3.401	0.094	3.216	3.586	36.051	<.001
GMH6	3.698	0.089	3.523	3.872	41.552	<.001
GMH7	3.122	0.122	2.883	3.361	25.646	<.001
GMH8	3.256	0.107	3.045	3.466	30.337	<.001
SWB1	3.831	0.079	3.677	3.986	48.568	<.001
SWB2	3.680	0.100	3.484	3.877	36.705	<.001
SWB3	3.849	0.087	3.679	4.019	44.423	<.001
SWB4	3.692	0.093	3.509	3.874	39.636	<.001
SWB5	3.779	0.087	3.608	3.950	43.275	<.001
SWB6	3.744	0.086	3.575	3.913	43.345	<.001
SWB7	3.512	0.100	3.316	3.707	35.168	<.001
SWB8	3.587	0.102	3.387	3.788	35.061	<.001
HD1	3.773	0.082	3.612	3.934	45.873	<.001
HD2	3.721	0.098	3.529	3.913	37.937	<.001
HD3	3.750	0.083	3.586	3.914	44.912	<.001
HD4	3.651	0.098	3.459	3.843	37.326	<.001
HD5	3.547	0.091	3.368	3.725	39.001	<.001
HD6	3.767	0.082	3.606	3.929	45.741	<.001
Mental wellness	0.000	0.000	0.000	0.000		
well-being	0.000	0.000	0.000	0.000		
Holistic Development	0.000	0.000	0.000	0.000		

Table-5 shows the intercepts (means) of all the observed indicators and latent constructs in the model, the standard error of the same, the confidence interval and the level of significance. The indicators of Mental Wellness (GMH1-GMH8), Well-being (SWB1-SWB8) and Holistic Development (HD1-HD6) all are observed to have positive and statistically significant intercepts ($p < .001$), with most of the values between about 3.1 and 3.9, meaning that, on average, respondents rated moderately high on them. The z-values and the 95% confidence intervals are very high and very narrow, which indicates that there is accurate estimation and strong indications that the level of the mean is very different than zero. The difference in the magnitude of intercepts between items indicates the differences

in the tendencies of responding at a low level with some items (e.g. GMH1, SWB3, HD1) recording a relatively high mean score whereas others (e.g. GMH7, HD5) recording a relatively low mean score. Contrarily, the latent intercepts of Mental Wellness, Well-being and Holistic Development are set to zero, a standard identification constraint in structural equation modelling in estimating the latent means, allowing the observed item intercepts to be interpreted in terms of the latent constructs. In general, it can be seen in the table that all the measured values are statistically significant and well-estimated mean levels that give evidence to the stability and the interpretability of the measurement model.

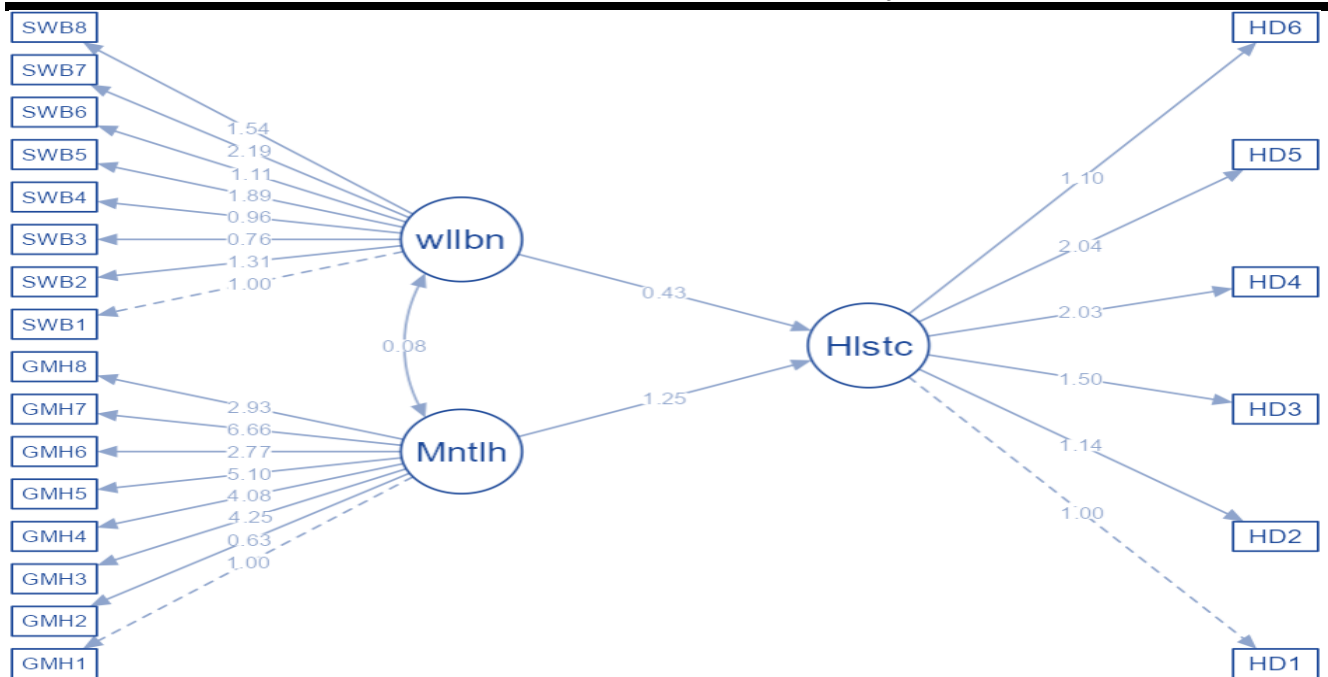


Figure-1 Path diagrams

5 DISCUSSION AND CONCLUSION

The aim of the study was to explore the role of student well-being and mental wellness on holistic development among students and how these psychological variables result in all-round growth in terms of cognitive, emotional, social and physical aspects. Results indicated that greater student well-being resulted in wider developmental consequences, which allowed an increase in academic involvement, resiliency, and interpersonal skills needed to achieve a balanced maturation. On the same note, enhanced mental health was also found to be a booster of multifaceted development where it eased emotional control, adaptive coping, and long-term motivation in learning situations. These trends highlighted the primary place of psychological health in determining the general pathways of students, and well-being and mental wellness were introduced as mutually reinforcing forebearers of success beyond academic success.

The findings of this study corresponded quite with the existing empirical research on psychological factors as drivers of the holistic student development. The holistic intervention of the group as demonstrated by Rentala et al. (2019) proved that

stress and anxiety reduction in adolescent girls led to emotional stability that is paramount in the personal and social development process and this is what we have seen here, where improvements in well-being resulted in wholesome maturation (Rentala et al., 2019). The meta-analysis of sustained intervention effects by Wernck et al. (2018) yielded long-term gains in mental health that were long-term gains in self-esteem and functioning, which align with the existing evidence of mental wellness in long-term developmental progress (Wernck et al., 2018). In this study, Nair and Otaki (2021) suggested the 4M-Model, according to which mindfulness and resilience-building reduced the burden in the domains, and similarly, mental wellness enhanced multifaceted growth (Nair and Otaki, 2021). The literature review of school programmes that reported CBT and SEL yielded psychological benefits that were sustained across translating into academic and relational outcomes, which supports the directional impacts (Berger et al., 2022). Song and Hu (2024) substantiated the mediating role of mental health in achievement through adaptation, which is in line with the more general developmental connections that have been identified (Song and Hu, 2024). Assessing student perspectives is the scoped by Hossain et al. (2023), who also connects the domains of

eudaimonic wellness to thriving, which reinforces the psychological-developmental relationships once again (Hossain et al., 2023). All these studies supported the existing trends but raised contextual moderators such as intervention fidelity to further the theoretical learning on psychological health as part of holistic education.

The student well being developed regulatory abilities of the holistic growth, emotional balance, social relatedness, and cognitive flexibility that facilitated the students to manage their educational difficulties with a sense of strength and direction. This relationship placed well-being as the fundamental facilitator of holistic development, creating a space of academic studies, which went hand in hand with personal prosperity and social harmony.

Mental wellness acted as a key architect of the holistic development, which strengthens the ability of the student to self-regulate, have motivational persistence, and interpersonal efficacy in the face of developmental pressures. It has paved way to total maturation through reducing internal barriers and upheld the psychological vitality as a must-have without which the development of balanced cognitive, emotional, and social functioning will be impossible in the lifelong success.

6 PRACTICAL IMPLICATIONS

Academic institutions must address the issue of routine well-being cheques to student academic schedules and implement validated instruments to detect at-risk learners earlier and implement specific SEL programmes to promote emotional regulation and resilience. Education modules on psychological first aid and competency-based feedbacks would strengthen teachers to support the holistic development of students in addition to the academic achievements. Mental health gains would be maintained through resource allocation on counselling services, peer mentoring, as well as extracurricular wellness activities, especially at transition periods (such as freshman year). Connectivity between home and school would increase developmental effects through parental

engagement workshops. Curriculum changes that entail the incorporation of well-being indicators into the performance assessment should be promoted by policymakers, who will develop accountability aspects regarding the balanced development of students outside of standardised testing.

7 FUTURE SCOPE OF THE STUDY

It is necessary to use longitudinal designs to study well-being and mental wellness curves over several academic years and develop more definite causal patterns and temporal relationships in their role in shaping a whole person. The presence of generalizability would be tested by comparative studies of urban and rural school settings or different age groups and would identify contextual differences in these associations. Predictive pathways may be narrowed by exploration of moderating variables (e.g. socioeconomic status, gender differences, family support, or teacher efficacy) to apply to vulnerable subpopulations (e.g. first-generation learners). The combination of mindfulness, SEL curriculum, and one-on-one coaching would allow a causal test of the interventions, as it would determine the scalability of the intervention in various educational systems. The systemic barriers and enablers would be discovered through multi-level modelling that includes classroom, school, and community effects, and would be used to create full policy frameworks. It can be integrated into the rising technology such as AI-based wellness apps, providing the possibility of real-time tracking and adaptive assistance on the scale of the development.

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